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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/800,004	03/06/2001	Katsuyoshi Fujita	5000-4853	5254

7590

04/24/2003

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EXAMINER

ATKINSON, CHRISTOPHER MARK

ART UNIT

PAPER NUMBER

3743

DATE MAILED: 04/24/2003

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/800,004

Applicant(s)

Fujita et al.

Examiner

Atkinson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/12/03 + 2/10/03
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Queyle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other: _____

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Response to RCE and Amendment

Applicant's arguments have been fully considered but they are not persuasive.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4 and 8-9 are rejected under 35 U.S.C. § 102(b) as being anticipated by Rockenfeller et al.

Claims 1-4, 6-7 and 9 are rejected under 35 U.S.C. § 102(b) as being anticipated by Asami et al.

Claims 1-2, 4-5 and 9 are rejected under 35 U.S.C. § 102(b) as being anticipated by Ishikawa et al. See at least figures 1-5.

Since applicant believes his claims directed toward "the body" are further limited by the body being compressed and molded, the immediate two rejections are given below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the

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art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 1-2, 4-5 and 8-9 are rejected under 35 U.S.C. § 103 as being unpatentable over Rockenfeller et al. in view of Ishikawa et al. The patent of over Rockenfeller et al. discloses all the claimed features of the invention with the exception of the body being molded and compressed.

The patent of Ishikawa et al. discloses that it is well known to have a molded and compressed copper powder hydrogen storage material for the purpose of reducing the diminishing effect of the storage material over repeated uses. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in over Rockenfeller et al. a molded and compressed copper powder hydrogen storage material for the purpose of reducing the diminishing effect of the storage material over repeated uses as disclosed in Ishikawa et al.

Claims 1-7 and 9 are rejected under 35 U.S.C. § 103 as being unpatentable over Rockenfeller et al. in view of Ishikawa et al. The patent of over Rockenfeller et al. discloses all the claimed features of the invention with the exception of the body being molded and compressed.

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The patent of Ishikawa et al. discloses that it is well known to have a molded and compressed copper powder hydrogen storage material for the purpose of reducing the diminishing effect of the storage material over repeated uses. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in over Rockenfeller et al. a molded and compressed copper powder hydrogen storage material for the purpose of reducing the diminishing effect of the storage material over repeated uses as disclosed in Ishikawa et al.

Claim 5 is rejected under 35 U.S.C. § 103 as being unpatentable over Rockenfeller et al. and Asami et al. The patent's of over Rockenfeller et al. and Asami et al. disclose all the claimed features of the invention with the exception of the specifically claimed material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the specifically claimed material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Claims 3, 6-7 and 10-12 are rejected under 35 U.S.C. § 103 as being unpatentable over Rockenfeller et al. in view of Nikai, Januschkowetz or Yanagi et al. The patent of Rockenfeller et al. discloses all the claimed features of the invention with the exception of the claimed shapes.

The devices of Nikai, Januschkowetz and Yanagi et al. the molded body and the flow passages being flat for the purpose of obtaining a compact heat exchanger which generates an excellent absorbing and desorbing surface efficiency. It would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to employ in over Rockenfeller et al. the molded body and the flow passages being flat for the purpose of obtaining a compact heat exchanger which generates an excellent absorbing and desorbing surface efficiency as disclosed in Nikai, Januschkowetz and Yanagi et al. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the specifically claimed material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Claims 3, 6-7 and 10-12 are rejected under 35 U.S.C. § 103 as being unpatentable over Ishikawa et al. in view of Nikai, Januschkowetz or Yanagi et al. The patent of Ishikawa et al. discloses all the claimed features of the invention with the exception of the claimed shapes.

The devices of Nikai, Januschkowetz and Yanagi et al. the molded body and the flow passages being flat for the purpose of obtaining a compact heat exchanger which generates an excellent absorbing and desorbing surface efficiency. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Ishikawa et al. the molded body and the flow passages being flat for the purpose of obtaining a compact heat exchanger which generates an excellent absorbing and desorbing surface efficiency as disclosed in Nikai, Januschkowetz and Yanagi et al.

Claim 13 is rejected under 35 U.S.C. § 103 as being unpatentable over Rockenfeller et al. in view of Nikai, Januschkowetz or Yanagi et al. as applied to claims 3, 6-7 and 10-12 above, and

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further in view of Onishi et al. The patent of Rockenfeller et al. as modified, discloses all the claimed features of the invention with the exception of the body including a chamfer.

The device of Onishi et al. discloses bodies (11) including a chamfer for the purpose of an having an efficient packing of the bodies within a housing which increases the filling rate of hydrogen. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in over Rockenfeller et al. as modified, a chamfer for the purpose of an having an efficient packing of the bodies within a housing which increases the filling rate of hydrogen as disclosed in Onishi et al.

Claim 13 is rejected under 35 U.S.C. § 103 as being unpatentable over Ishikawa et al. in view of Nikai, Januschkowetz or Yanagi et al. as applied to claims 3, 6-7 and 10-12 above, and further in view of Onishi et al. The patent of Ishikawa et al. as modified, discloses all the claimed features of the invention with the exception of the body including a chamfer.

The device of Onishi et al. discloses bodies (11) including a chamfer for the purpose of an having an efficient packing of the bodies within a housing which increases the filling rate of hydrogen. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in over Ishikawa et al. as modified, a chamfer for the purpose of an having an efficient packing of the bodies within a housing which increases the filling rate of hydrogen as disclosed in Onishi et al.

Claim 14 is rejected under 35 U.S.C. § 103 as being unpatentable over Rockenfeller et al. in view of Nikai, Januschkowetz or Yanagi et al. as applied to claims 3, 6-7 and 10-12 above, and

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further in view of Davis. The patent of Rockenfeller et al. as modified, discloses all the claimed features of the invention with the exception of a connecting section between upstream and downstream sections.

The patent of Davis discloses that it is known to have a connecting section between upstream and downstream sections for the purpose of increasing the fluid flow length which increases the time the fluid exchanges heat which increases the overall heat exchange efficiency. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in over Rockenfeller et al. as modified, a connecting section between upstream and downstream sections for the purpose of increasing the fluid flow length which increases the time the fluid exchanges heat which increases the overall heat exchange efficiency as disclosed in Davis.

Claim 14 is rejected under 35 U.S.C. § 103 as being unpatentable over Ishikawa et al. in view of Nikai, Januschkowetz or Yanagi et al. as applied to claims 3, 6-7 and 10-12 above, and further in view of Davis. The patent of Ishikawa et al. as modified, discloses all the claimed features of the invention with the exception of a connecting section between upstream and downstream sections.

The patent of Davis discloses that it is known to have a connecting section between upstream and downstream sections for the purpose of increasing the fluid flow length which increases the time the fluid exchanges heat which increases the overall heat exchange efficiency. It would have been obvious at the time the invention was made to a person having ordinary skill in

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the art to employ in over Ishikawa et al. as modified, a connecting section between upstream and downstream sections for the purpose of increasing the fluid flow length which increases the time the fluid exchanges heat which increases the overall heat exchange efficiency as disclosed in Davis.

Claim 15 is rejected under 35 U.S.C. § 103 as being unpatentable over Rockenfeller et al. in view of Nikai, Januschkowetz or Yanagi et al. as applied to claims 3, 6-7 and 10-12 above, and further in view of Davis as applied to claim 14 above, and further in view of Farfaletti-Casali et al. The patent of Rockenfeller et al. as modified, discloses all the claimed features of the invention with the exception of the header including both upstream and down stream sections.

The patent of Farfaletti-Casali et al. discloses that it is known to have a header including both upstream and down stream sections for the purpose of reducing the number of parts and reducing overall size, weight and cost. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in over Rockenfeller et al. as modified, a header including both upstream and down stream sections for the purpose of reducing the number of parts and reducing overall size, weight and cost as disclosed in Farfaletti-Casali et al.

Claim 15 is rejected under 35 U.S.C. § 103 as being unpatentable over Ishikawa et al. in view of Nikai, Januschkowetz or Yanagi et al. as applied to claims 3, 6-7 and 10-12 above, and further in view of Davis as applied to claim 14 above, and further in view of Farfaletti-Casali et al. The patent of Ishikawa et al. as modified, discloses all the claimed features of the invention with the exception of the header including both upstream and down stream sections.

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The patent of Farfaletti-Casali et al. discloses that it is known to have a header including both upstream and down stream sections for the purpose of reducing the number of parts and reducing overall size, weight and cost. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in over Ishikawa et al. as modified, a header including both upstream and down stream sections for the purpose of reducing the number of parts and reducing overall size, weight and cost as disclosed in Farfaletti-Casali et al.

Claims 3, 6-7 and 10-12 are rejected under 35 U.S.C. § 103 as being unpatentable over Rockenfeller et al. in view of Ishikawa et al. as applied to claims 1-2, 4-5 and 8-9 above, and further in view of Nikai, Januschkowetz or Yanagi et al. The patent of Rockenfeller et al. as modified, discloses all the claimed features of the invention with the exception of the claimed shapes.

The devices of Nikai, Januschkowetz and Yanagi et al. the molded body and the flow passages being flat for the purpose of obtaining a compact heat exchanger which generates an excellent absorbing and desorbing surface efficiency. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in over Rockenfeller et al. the molded body and the flow passages being flat for the purpose of obtaining a compact heat exchanger which generates an excellent absorbing and desorbing surface efficiency as disclosed in Nikai, Januschkowetz and Yanagi et al. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the specifically claimed material, since it has been held to be within the general skill of a worker in the art to select a known material on the

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basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Claim 13 is rejected under 35 U.S.C. § 103 as being unpatentable over Rockenfeller et al. in view of Ishikawa et al. as applied to claims 1-2, 4-5 and 8-9 above, and further in view of Nikai, Januschkowetz or Yanagi et al. as applied to claims 3, 6-7 and 10-12 above, and further in view of Onishi et al. The patent of Rockenfeller et al. as modified, discloses all the claimed features of the invention with the exception of the body including a chamfer.

The device of Onishi et al. discloses bodies (11) including a chamfer for the purpose of an having an efficient packing of the bodies within a housing which increases the filling rate of hydrogen. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in over Rockenfeller et al. as modified, a chamfer for the purpose of an having an efficient packing of the bodies within a housing which increases the filling rate of hydrogen as disclosed in Onishi et al.

Claim 14 is rejected under 35 U.S.C. § 103 as being unpatentable over Rockenfeller et al. in view of Ishikawa et al. as applied to claims 1-2, 4-5 and 8-9 above, and further in view of Nikai, Januschkowetz or Yanagi et al. as applied to claims 3, 6-7 and 10-12 above, and further in view of Davis. The patent of Rockenfeller et al. as modified, discloses all the claimed features of the invention with the exception of a connecting section between upstream and downstream sections.

The patent of Davis discloses that it is known to have a connecting section between

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upstream and downstream sections for the purpose of increasing the fluid flow length which increases the time the fluid exchanges heat which increases the overall heat exchange efficiency. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in over Rockenfeller et al. as modified, a connecting section between upstream and downstream sections for the purpose of increasing the fluid flow length which increases the time the fluid exchanges heat which increases the overall heat exchange efficiency as disclosed in Davis.

Claim 15 is rejected under 35 U.S.C. § 103 as being unpatentable over Rockenfeller et al. in view of Ishikawa et al. as applied to claims 1-2, 4-5 and 8-9 above, and further in view of Nikai, Januschkowetz or Yanagi et al. as applied to claims 3, 6-7 and 10-12 above, and further in view of Davis as applied to claim 14 above, and further in view of Farfaletti-Casali et al. The patent of Rockenfeller et al. as modified, discloses all the claimed features of the invention with the exception of the header including both upstream and down stream sections.

The patent of Farfaletti-Casali et al. discloses that it is known to have a header including both upstream and down stream sections for the purpose of reducing the number of parts and reducing overall size, weight and cost. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in over Rockenfeller et al. as modified, a header including both upstream and down stream sections for the purpose of reducing the number of parts and reducing overall size, weight and cost as disclosed in Farfaletti-Casali et al.

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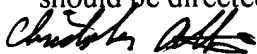
Response to Arguments

Applicant's concerns directed toward the hydrogen storage material powder are not found persuasive. First, molding and compressing are method of making limitations and are not given any patentable weight in an apparatus claim. In at least column 3, lines 50-56 (porous metal granulates/powder) in Rockenfeller et al. and in at least column 4, lines 54-56 in Asami et al. (into fine powder) disclose the body being a hydrogen storage material powder. Also, Ishikawa et al. discloses that it is known to have a hydrogen storage material being molded and compressed.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Atkinson whose telephone number is (703) 308-2603.



C.A. CHRISTOPHER ATKINSON
April 21, 2003 PRIMARY EXAMINER